

THE ASTROPHYSICAL JOURNAL
CONTENTS OF VOLUME 613, PART 1

2004 SEPTEMBER 20, NUMBER 1

	Page
THE GROWTH OF H II REGIONS DURING REIONIZATION Ⓢ	1
<i>Steven R. Furlanetto, Matias Zaldarriaga, & Lars Hernquist</i>	
STATISTICAL PROBES OF REIONIZATION WITH 21 CENTIMETER TOMOGRAPHY Ⓢ	16
<i>Steven R. Furlanetto, Matias Zaldarriaga, & Lars Hernquist</i>	
PROBING THE REIONIZATION HISTORY USING THE SPECTRA OF HIGH-REDSHIFT SOURCES	23
<i>Andrei Mesinger, Zoltán Haiman, & Renyue Cen</i>	
CONSTRAINTS FROM GRAVITATIONAL RECOIL ON THE GROWTH OF SUPERMASSIVE BLACK HOLES AT HIGH REDSHIFT	36
<i>Zoltán Haiman</i>	
SELF-CALIBRATION IN CLUSTER STUDIES OF DARK ENERGY: COMBINING THE CLUSTER REDSHIFT DISTRIBUTION, THE POWER SPECTRUM, AND MASS MEASUREMENTS Ⓢ	41
<i>Subhabrata Majumdar & Joseph J. Mohr</i>	
WAVELETS AND WILKINSON MICROWAVE ANISOTROPY PROBE NON-GAUSSIANITY	51
<i>Pia Mukherjee & Yun Wang</i>	
LARGE-SCALE CORRELATIONS IN THE Ly α FOREST AT $z = 3-4$ Ⓢ	61
<i>George D. Becker, Wallace L. W. Sargent, & Michael Rauch</i>	
QUALITATIVE ASPECTS OF QUASAR MICROLENSING WITH TWO MASS COMPONENTS: MAGNIFICATION PATTERNS AND PROBABILITY DISTRIBUTIONS Ⓢ	77
<i>Paul L. Schechter, Joachim Wambsganss, & Geraint F. Lewis</i>	
STUDY OF THE EXTENDED NARROW-LINE REGION IN THE HOST GALAXY OF THE LENSED QSO 2237+0305 ($z = 1.69$)	86
<i>V. Motta, E. Mediavilla, J. A. Muñoz, & E. Falco</i>	
WEAK-LENSING MASS DISTRIBUTIONS FOR 24 X-RAY ABELL CLUSTERS Ⓢ	95
<i>Eduardo S. Cypriano, Laerte Sodré, Jr., Jean-Paul Kneib, & Luis E. Campusano</i>	
PRESENT-DAY GROWTH OF BLACK HOLES AND BULGES: THE SLOAN DIGITAL SKY SURVEY PERSPECTIVE	109
<i>Timothy M. Heckman, Guinevere Kauffmann, Jarle Brinchmann, Stéphane Charlot, Christy Tremonti, & Simon D. M. White</i>	
ON THE JET ACTIVITY IN 3C 273	119
<i>Lukasz Stawarz</i>	
VARIABILITY OF NARROW, ASSOCIATED ABSORPTION LINES IN MODERATE- AND LOW-REDSHIFT QUASARS Ⓢ	129
<i>John H. Wise, Michael Eracleous, Jane C. Charlton, & Rajib Ganguly</i>	
SYNCHROTRON VERSUS COMPTON INTERPRETATIONS FOR EXTENDED X-RAY JETS	151
<i>Armen Atoyan & Charles D. Dermer</i>	
COSMOLOGICAL FEEDBACK FROM HIGH-REDSHIFT DWARF GALAXIES	159
<i>Akimi Fujita, Mordecai-Mark Mac Low, Andrea Ferrara, & Avery Meiksin</i>	
A CHANDRA X-RAY OBSERVATION OF A1991: THE LATE STAGES OF INFALL?	180
<i>Mangala Sharma, B. R. McNamara, P. E. J. Nulsen, M. Owers, M. W. Wise, E. L. Blanton, C. L. Sarazin, F. N. Owen, & L. P. David</i>	
HIGH-REDSHIFT SUPERNOVA RATES	189
<i>Tomas Dahlen, Louis-Gregory Strolger, Adam G. Riess, Bahram Mobasher, Ranya-Ram Chary, Christopher J. Conselice, Henry C. Ferguson, Andrew S. Fruchter, Mauro Giavalisco, Mario Livio, Piero Madau, Nino Panagia, & John L. Tonry</i>	
THE HUBBLE HIGHER z SUPERNOVA SEARCH: SUPERNOVAE TO $z \approx 1.6$ AND CONSTRAINTS ON TYPE Ia PROGENITOR MODELS Ⓢ	200
<i>Louis-Gregory Strolger, Adam G. Riess, Tomas Dahlen, Mario Livio, Nino Panagia, Peter Challis, John L. Tonry, Alexei V. Filippenko, Ryan Chornock, Henry Ferguson, Anton Koekemoer, Bahram Mobasher, Mark Dickinson, Mauro Giavalisco, Stefano Casertano, Richard Hook, Stéphane Bondin, Bruno Leibundgut, Mario Nonino, Piero Rosati, Hyron Spinrad, Charles C. Steidel, Daniel Stern, Peter M. Garnavich, Thomas Matheson, Norman Grogan, Ann Hornschemeier, Claudia Kretchmer, Victoria G. Laidler, Kyoungsoo Lee, Ray Lucas, Duilia de Mello, Leonidas A. Moustakas, Swara Ravindranath, Marin Richardson, & Edward Taylor</i>	

	Page
ORBITAL ROULETTE: A NEW METHOD OF GRAVITY ESTIMATION FROM OBSERVED MOTIONS © <i>Andrei M. Beloborodov & Yuri Levin</i>	224
HOT GAS STRUCTURE IN THE ELLIPTICAL GALAXY NGC 4472 © <i>B. A. Biller, C. Jones, W. R. Forman, R. Kraft, & T. Ensslin</i>	238
THE FAR-INFRARED SPECTRUM OF ARP 220 <i>Eduardo González-Alfonso, Howard A. Smith, Janine E. F. Churcher, & José Cernicharo</i>	247
THE COLORS OF DWARF ELLIPTICAL GALAXY GLOBULAR CLUSTER SYSTEMS, NUCLEI, AND STELLAR HALOS <i>Jennifer M. Lotz, Bryan W. Miller, & Henry C. Ferguson</i>	262
THE ACS VIRGO CLUSTER SURVEY. III. CHANDRA AND HUBBLE SPACE TELESCOPE OBSERVATIONS OF LOW-MASS X-RAY BINARIES AND GLOBULAR CLUSTERS IN M87 © <i>Andrés Jordán, Patrick Côté, Laura Ferrarese, John P. Blakeslee, Simona Mei, David Merritt, Miloš Milosavljević, Eric W. Peng, John L. Tonry, & Michael J. West</i>	279
AMBIENT INTERSTELLAR PRESSURE AND SUPERBUBBLE EVOLUTION <i>M. S. Oey & G. García-Segura</i>	302
SYNTHETIC LICK INDICES AND DETECTION OF α -ENHANCED STARS. II. F, G, AND K STARS IN THE $-1.0 < [\text{Fe}/\text{H}] < +0.50$ RANGE © <i>M. Franchini, C. Morossi, P. Di Marcantonio, M. L. Malagnini, M. Chavez, & L. Rodríguez-Merino</i>	312
A DYNAMICAL MODEL FOR HOT GAS IN THE GALACTIC CENTER <i>Eliot Quataert</i>	322
DIFFUSE X-RAY EMISSION IN A DEEP CHANDRA IMAGE OF THE GALACTIC CENTER <i>M. P. Muno, F. K. Baganoff, M. W. Bautz, E. D. Feigelson, G. P. Garmire, M. R. Morris, S. Park, G. R. Ricker, & L. K. Townsley</i>	326
KINEMATICS OF X-RAY-EMITTING COMPONENTS IN CASSIOPEIA A © <i>Tracey DeLaney, Lawrence Rudnick, Robert A. Fesen, T. W. Jones, Robert Petre, & Jon A. Morse</i>	343
THE NONTHERMAL ROTATIONAL DISTRIBUTION OF H+3 <i>Takeshi Oka & Erik Epp</i>	349
RADIATIVE TRANSFER AND STARLESS CORES <i>Eric Keto, George B. Rybicki, Edwin A. Bergin, & René Plume</i>	355
A MID-INFRARED SURVEY OF L1641N WITH ISOCAM <i>Babur Ali & Alberto Noriega-Crespo</i>	374
WAITING IN THE WINGS: REFLECTED X-RAY EMISSION FROM THE HOMUNCULUS NEBULA <i>M. F. Corcoran, K. Hamaguchi, T. Gull, K. Davidson, R. Petre, D. J. Hillier, N. Smith, A. Damineli, J. A. Morse, N. R. Walborn, E. Verner, N. Collins, S. White, J. M. Pittard, K. Weis, D. Bomans, & Y. Butt</i>	381
STRINGS IN THE η CARINAE NEBULA: HYPERSONIC RADIATIVE COSMIC BULLETS <i>A. Y. Poludnenko, A. Frank, & S. Mitran</i>	387
SIMULTANEOUS CHANDRA AND VERY LARGE ARRAY OBSERVATIONS OF YOUNG STARS AND PROTOSTARS IN ρ OPHIUCHUS CLOUD CORE A © <i>Marc Gagné, Stephen L. Skinner, & Kathryn J. Daniel</i>	393
MULTIPLE OUTFLOWS IN THE LkH α 234 REGION <i>Miguel A. Trinidad, Salvador Curiel, José M. Torrelles, Luis F. Rodríguez, Jorge Cantó, José F. Gómez, Nimesh Patel, & Paul T. P. Ho</i>	416
MODELS OF CHEMISTRY, THERMAL BALANCE, AND INFRARED SPECTRA FROM INTERMEDIATE-AGED DISKS AROUND G AND K STARS <i>U. Gorti & D. Hollenbach</i>	424
PROMPT GAMMA-RAY BURST SPECTRA: DETAILED CALCULATIONS AND THE EFFECT OF PAIR PRODUCTION © <i>Asaf Pe'er & Eli Waxman</i>	448
A STUDY OF PROMPT EMISSION MECHANISMS IN GAMMA-RAY BURSTS <i>Matthew G. Baring & Matthew L. Braby</i>	460
ON THE KINETIC ENERGY AND RADIATIVE EFFICIENCY OF GAMMA-RAY BURSTS <i>Nicole M. Lloyd-Ronning & Bing Zhang</i>	477
GAMMA-RAY BURST INTENSITY DISTRIBUTIONS <i>David L. Band, Jay P. Norris, & Jerry T. Bonnell</i>	484
THE ELECTROMAGNETIC SIGNATURE OF BLACK HOLE RING-DOWN © <i>C. A. Clarkson, M. Marklund, G. Betschart, & P. K. S. Dunsby</i>	492
BOUNDARY LAYER SELF-SIMILAR SOLUTION FOR THE HOT RADIATIVE ACCRETION ONTO A RAPIDLY SPINNING NEUTRON STAR <i>Mikhail V. Medvedev</i>	506
HUBBLE SPACE TELESCOPE ADVANCED CAMERA FOR SURVEYS IMAGING OF ω CENTAURI: OPTICAL COUNTERPART FOR THE QUIESCENT LOW-MASS X-RAY BINARY <i>Daryl Haggard, Adrienne M. Cool, Jay Anderson, Peter D. Edmonds, Paul J. Callanan, Craig O. Heinke, Jonathan E. Grindlay, & Charles D. Bailyn</i>	512

CONTENTS

	Page
MASS-RADIUS CONSTRAINTS FROM A PULSE SHAPE MODEL FOR HERCULES X-1 <i>D. A. Leahy</i>	517
MICROSECOND TIMING OF PSR B1821-24 WITH CHANDRA HIGH RESOLUTION CAMERA-S <i>Robert E. Rutledge, Derek W. Fox, S. R. Kulkarni, Bryan A. Jacoby, I. Cognard, D. C. Backer, & Stephen S. Murray</i>	522
EVIDENCE FOR LOW-DIMENSIONAL CHAOS IN SEMIREGULAR VARIABLE STARS © <i>J. Robert Buchler, Zoltán Kolláth, & Robert R. Cadmus, Jr.</i>	532
X-RAY SPECTROSCOPY OF THE UNSTEADY QUIESCENT CORONA OF AD LEONIS WITH CHANDRA © <i>A. Maggio, J. J. Drake, V. Kashyap, F. R. Harnden, Jr., G. Micela, G. Peres, & S. Sciortino</i>	548
MOLECULAR LINE OPACITY OF LiCl IN THE MID-INFRARED SPECTRA OF BROWN DWARFS <i>P. F. Weck, A. Schweitzer, K. Kirby, P. H. Hauschildt, & P. C. Stancil</i>	567
SCINTILLATION EFFECTS ON A HIGH-CONTRAST IMAGING INSTRUMENT FOR DIRECT EXTRASOLAR PLANETS' DETECTION <i>E. Masciadri, M. Feldt, & S. Hippler</i>	572
EXTREME-ULTRAVIOLET AND X-RAY SPECTROSCOPY OF A SOLAR FLARE LOOP OBSERVED AT HIGH TIME RESOLUTION: A CASE STUDY IN CHROMOSPHERIC EVAPORATION © <i>Jeffrey W. Brosius & Kenneth J. H. Phillips</i>	580
A QUANTITATIVE STUDY OF THE HOMOLOGOUS FLARES ON 2000 NOVEMBER 24 <i>Hiroyuki Takasaki, Ayumi Asai, Junko Kiyohara, Masumi Shimojo, Toshio Terasawa, Yasuhiro Takei, & Kazunari Shibata</i>	592
CHARACTERIZATION OF MAGNETIC FLUX IN THE QUIET SUN. II. THE INTERNETWORK FIELDS AT HIGH ANGULAR RESOLUTION <i>B. W. Lites & H. Socas-Navarro</i>	600
MULTILINE STOKES ANALYSIS FOR THE STUDY OF SMALL-SCALE SOLAR MAGNETIC FIELDS <i>H. Socas-Navarro</i>	610
ON THE EFFECT OF ELECTRON COLLISIONS IN THE EXCITATION OF COMETARY HCN <i>Amy J. Lovell, Nitya Kallivayalil, F. Peter Schloerb, Michael R. Combi, Kenneth C. Hansen, & T. I. Gombosi</i>	615
STOCHASTIC RELATIVISTIC SHOCK-SURFING ACCELERATION <i>Benjamin D. G. Chandran & Naoki Bessho</i>	622
2004 OCTOBER 1, NUMBER 2	
THE STRUCTURE AND EVOLUTION OF EARLY COSMOLOGICAL H II REGIONS © <i>Tetsu Kitayama, Naoki Yoshida, Hajime Susa, & Masayuki Umemura</i>	631
A LIMIT FROM THE X-RAY BACKGROUND ON THE CONTRIBUTION OF QUASARS TO REIONIZATION © <i>Mark Dijkstra, Zoltán Haiman, & Abraham Loeb</i>	646
AN 850 MICRON SCUBA SURVEY OF THE HUBBLE DEEP FIELD-NORTH GOODS REGION <i>W.-H. Wang, L. L. Cowie, & A. J. Barger</i>	655
THEORETICAL MODELING OF WEAKLY LENSED POLARIZED RADIO SOURCES <i>Christopher R. Burns, Charles C. Dyer, Philipp P. Kronberg, & Hermann-Josef Röser</i>	672
CENTRAL MASSES AND BROAD-LINE REGION SIZES OF ACTIVE GALACTIC NUCLEI. II. A HOMOGENEOUS ANALYSIS OF A LARGE REVERBERATION-MAPPING DATABASE © <i>B. M. Peterson, L. Ferrarese, K. M. Gilbert, S. Kaspi, M. A. Malkan, D. Maoz, D. Merritt, H. Netzer, C. A. Onken, R. W. Pogge, M. Vestergaard, & A. Wandel</i>	682
IRON K α FLUORESCENT LINE PROFILES FROM SPIRAL ACCRETION FLOWS IN ACTIVE GALACTIC NUCLEI © <i>Keigo Fukumura & Sachiko Tsuruta</i>	700
A SEARCH FOR TeV GAMMA-RAY EMISSION FROM HIGH-PEAKED FLAT-SPECTRUM RADIO QUASARS USING THE WHIPPLE AIR CERENKOV TELESCOPE <i>A. D. Falcone, I. H. Bond, P. J. Boyle, S. M. Bradbury, J. H. Buckley, D. Carter-Lewis, O. Celik, W. Cui, M. Daniel, M. D'Vali, I. de la Calle Perez, C. Duke, D. J. Fegan, S. J. Fegan, J. P. Finley, L. F. Fortson, J. Gaidos, S. Gammell, K. Gibbs, G. H. Gillanders, J. Grube, J. Hall, T. A. Hall, D. Hanna, A. M. Hillas, J. Holder, D. Horan, A. Jarvis, G. E. Kenny, M. Kertzman, D. Kieda, J. Kildea, J. Knapp, K. Kosack, H. Krawczynski, F. Krennrich, M. J. Lang, S. LeBohec, E. Linton, J. Lloyd-Evans, A. Milovanovic, P. Moriarty, D. Muller, T. Nagai, S. Nolan, R. Ong, R. Palladini, D. Petry, F. Pizlo, B. Power-Mooney, J. Quinn, M. Quinn, K. Ragan, P. Rebillot, P. T. Reynolds, H. J. Rose, M. Schroedter, G. Sembroski, S. P. Swordy, A. Syson, K. Tyler, V. V. Vassiliev, S. P. Wakely, G. Walker, T. C. Weekes, & J. Zweerink</i>	710
ARE THE JETS ACCELERATED FROM THE DISK CORONAS IN SOME ACTIVE GALACTIC NUCLEI? <i>Xinwu Cao</i>	716
SYNCHROTRON SELF-COMPTON MODEL FOR RAPID NONTHERMAL FLARES IN BLAZARS WITH FREQUENCY-DEPENDENT TIME LAGS <i>Andrei Sokolov, Alan P. Marscher, & Ian M. McHardy</i>	725

	Page
THE NATURE OF CLOSE COMPANIONS OF THE BL LACERTAE OBJECTS IES 0502+675 AND IES 1440+122 <i>G. Giovannini, R. Falomo, R. Scarpa, A. Treves, & C. M. Urry</i>	747
A SAMPLE OF LOW-REDSHIFT BL LACERTAE OBJECTS. I. THE RADIO DATA <i>M. Giroletti, G. Giovannini, G. B. Taylor, & R. Falomo</i>	752
HYDROCARBON DUST ABSORPTION IN SEYFERT GALAXIES AND ULTRALUMINOUS INFRARED GALAXIES <i>R. E. Mason, G. Wright, Y. Pendleton, & A. Adamson</i>	770
THE NUCLEAR GAS DYNAMICS AND STAR FORMATION OF MARKARIAN 231 <i>R. I. Davies, L. J. Tacconi, & R. Genzel</i>	781
THE PARSEC-SCALE RADIO STRUCTURE OF NGC 1068 AND THE NATURE OF THE NUCLEAR RADIO SOURCE <i>Jack F. Gallimore, Stefi A. Baum, & Christopher P. O'Dea</i>	794
MODELS OF THE INTRACLUSTER MEDIUM WITH HEATING AND COOLING: EXPLAINING THE GLOBAL AND STRUCTURAL X-RAY PROPERTIES OF CLUSTERS [⊙] <i>Ian G. McCarthy, Michael L. Balogh, Arif Babul, Gregory B. Poole, & Donald J. Horner</i>	811
CHANDRA AND XMM-NEWTON OBSERVATIONS OF THE DOUBLE CLUSTER A1758 <i>Laurence P. David & Joshua Kempner</i>	831
THE DYNAMICS OF A2125 [⊙] <i>Neal A. Miller, Frazer N. Owen, John M. Hill, William C. Keel, Michael J. Ledlow, & William R. Oegerle</i>	841
MASSIVE STAR FORMATION RATES AND RADIAL DISTRIBUTIONS FROM H α IMAGING OF 84 VIRGO CLUSTER AND ISOLATED SPIRAL GALAXIES <i>Rebecca A. Koopmann & Jeffrey D. P. Kenney</i>	851
H α MORPHOLOGIES AND ENVIRONMENTAL EFFECTS IN VIRGO CLUSTER SPIRAL GALAXIES <i>Rebecca A. Koopmann & Jeffrey D. P. Kenney</i>	866
THE STELLAR DISK THICKNESS OF LOW SURFACE BRIGHTNESS GALAXIES <i>D. Bizyaev & S. Kajsian</i>	886
THE ORIGIN OF THE MASS-METALLICITY RELATION: INSIGHTS FROM 53,000 STAR-FORMING GALAXIES IN THE SLOAN DIGITAL SKY SURVEY <i>Christy A. Tremonti, Timothy M. Heckman, Guinevere Kauffmann, Jarle Brinchmann, Stéphane Charlot, Simon D. M. White, Mark Seibert, Eric W. Peng, David J. Schlegel, Alan Uomoto, Masataka Fukugita, & Jon Brinkmann</i>	898
STAR FORMATION IN H I—SELECTED GALAXIES. I. SAMPLE CHARACTERISTICS [⊙] <i>J. F. Helmboldt, R. A. M. Walterbos, G. D. Bothun, K. O'Neil, & W. J. G. de Blok</i>	914
XMM-NEWTON OBSERVATIONS OF NGC 507: SUPERSOLAR METAL ABUNDANCES IN THE HOT INTERSTELLAR MEDIUM [⊙] <i>Dong-Woo Kim & Giuseppina Fabbiano</i>	933
SUPERNOVA REMNANTS IN THE MAGELLANIC CLOUDS. IV. X-RAY EMISSION FROM THE LARGEST SUPERNOVA REMNANT IN THE LARGE MAGELLANIC CLOUD <i>R. M. Williams, Y.-H. Chu, J. R. Dickel, R. A. Gruendl, R. Shelton, S. D. Points, & R. C. Smith</i>	948
A NEW DETERMINATION OF THE EXTRAGALACTIC DIFFUSE GAMMA-RAY BACKGROUND FROM EGRET DATA [⊙] <i>Andrew W. Strong, Igor V. Moskalenko, & Olaf Reimer</i>	956
DIFFUSE GALACTIC CONTINUUM GAMMA RAYS: A MODEL COMPATIBLE WITH EGRET DATA AND COSMIC-RAY MEASUREMENTS [⊙] <i>Andrew W. Strong, Igor V. Moskalenko, & Olaf Reimer</i>	962
VELA X AT 31 GHz <i>A. S. Hales, S. Casassus, H. Alvarez, J. May, L. Bronfman, A. C. Readhead, T. J. Pearson, B. S. Mason, & R. Dodson</i>	977
POLYCYCLIC AROMATIC HYDROCARBONS AS A TRACER OF STAR FORMATION? [⊙] <i>E. Peeters, H. W. W. Spoon, & A. G. G. M. Tielens</i>	986
THE STRUCTURE OF THE LOCAL INTERSTELLAR MEDIUM. III. TEMPERATURE AND TURBULENCE <i>Seth Redfield & Jeffrey L. Linsky</i>	1004
ON THE ENHANCED INTERSTELLAR SCATTERING TOWARD B1849+005 <i>T. Joseph W. Lazio</i>	1023
THE HOMOGENEITY OF INTERSTELLAR OXYGEN IN THE GALACTIC DISK <i>Stefan I. B. Cartledge, J. T. Lauroesch, David M. Meyer, & U. J. Sofia</i>	1037
RESOLVED INNER DISKS AROUND HERBIG Ae/Be STARS <i>J. A. Eisner, B. F. Lane, L. A. Hillenbrand, R. L. Akeson, & A. I. Sargent</i>	1049
GeV AND HIGHER ENERGY PHOTON INTERACTIONS IN GAMMA-RAY BURST FIREBALLS AND SURROUNDINGS [⊙] <i>Soebur Razzaque, Peter Mészáros, & Bing Zhang</i>	1072

POLARIZATION OF GAMMA-RAY BURSTS BY SCATTERING OFF RELATIVISTICALLY MOVING MATERIAL:
COMPTON SAILING AND HIGH POLARIZATION*Amir Levinson & David Eichler*

GAMMA-RAY BURST POLARIZATION: LIMITS FROM RHESSI MEASUREMENTS

C. Wigger, W. Hajdas, K. Arzner, M. Güdel, & A. Zehnder

UNIFIED ONE-DIMENSIONAL SIMULATIONS OF GAMMA-RAY LINE EMISSION FROM TYPE Ia SUPERNOVAE ©

P. A. Milne, A. L. Hungerford, C. L. Fryer, T. M. Evans, T. J. Urbatsch, S. E. Boggs, J. Isern, E. Bravo, A. Hirschmann, S. Kumagai, P. A. Pinto, & L.-S. The

THE LUMINOSITY OF SN 1999by IN NGC 2841 AND THE NATURE OF "PECULIAR" TYPE Ia SUPERNOVAE

Peter M. Garnavich, Alceste Z. Bonanos, Kevin Krisciunas, Saurabh Jha, Robert P. Kirshner, Eric M. Schlegel, Peter Challis, Lucas M. Macri, Kazuhito Hatano, David Branch, Gregory D. Bothun, & Wendy L. Freedman

MASSIVE BLACK HOLES IN STAR CLUSTERS. I. EQUAL-MASS CLUSTERS

Holger Baumgardt, Junichiro Makino, & Toshikazu Ebisuzaki

MASSIVE BLACK HOLES IN STAR CLUSTERS. II. REALISTIC CLUSTER MODELS ©

Holger Baumgardt, Junichiro Makino, & Toshikazu Ebisuzaki

HYDROMAGNETIC AND GRAVITOMAGNETIC CRUST-CORE COUPLING IN A PRECESSING NEUTRON STAR

Yuri Levin & Caroline D'Angelo

A FREQUENCY GLITCH IN AN ACCRETING PULSAR

*D. K. Galloway, E. H. Morgan, & A. M. Levine*DISCOVERY OF HARD NONTHERMAL PULSED X-RAY EMISSION FROM THE ANOMALOUS X-RAY
PULSAR 1E 1841-045*L. Kuiper, W. Hermsen, & M. Mendez*THE SPECTRA AND VARIABILITY OF X-RAY SOURCES IN A DEEP CHANDRA OBSERVATION OF THE
GALACTIC CENTER ©*M. P. Muno, J. S. Arabadjis, F. K. Baganoff, M. W. Bautz, W. N. Brandt, P. S. Broos, E. D. Feigelson, G. P. Garmire, M. R. Morris, & G. R. Ricker*

THE CORRELATION OF LITHIUM AND BERYLLIUM IN F AND G FIELD AND CLUSTER DWARF STARS ©

Ann Merchant Boesgaard, Eric Armengaud, Jeremy R. King, Constantine P. Deliyannis, & Alex Stephens

THE SECULAR BAR-MODE INSTABILITY IN RAPIDLY ROTATING STARS REVISITED

*Stuart L. Shapiro*EXTERNAL AND INTERNAL RECONNECTION IN TWO FILAMENT-CARRYING MAGNETIC CAVITY
SOLAR ERUPTIONS ©*Alphonse C. Sterling & Ronald L. Moore*ANISOTROPIC BREMSSTRAHLUNG EMISSION AND THE FORM OF REGULARIZED ELECTRON FLUX SPECTRA IN
SOLAR FLARES*Anna Maria Massone, A. Gordon Emslie, Eduard P. Kontar, Michele Piana, Marco Prato, & John C. Brown*

ON THE CONSTANCY OF THE SOLAR DIAMETER. II.

J. R. Kuhn, R. I. Bush, M. Emilio, & P. H. Scherrer

COMPARISON OF SOLAR SUBSURFACE FLOWS ASSESSED BY RING AND TIME-DISTANCE ANALYSES

Bradley W. Hindman, Laurent Gizon, Thomas L. Duvall, Jr., Deborah A. Haber, & Juri Toomre

DUST IN COMET 67P/CHURYUMOV-GERASIMENKO

F. Moreno, L. M. Lara, O. Muñoz, J. J. López-Moreno, & A. Molina

SEARCH FOR NANOSECOND OPTICAL PULSES FROM NEARBY SOLAR-TYPE STARS

Andrew W. Howard, Paul Horowitz, David T. Wilkinson, Charles M. Coldwell, Edward J. Groth, Norm Jarosik, David W. Latham, Robert P. Stefanik, Alexander J. Willman, Jr., Jonathan Wolff, & Joseph M. Zujac

TAU AIR SHOWERS FROM EARTH ©

*D. Fargion, P. G. De Sanctis Lucentini, M. De Santis, & M. Grossi*DISSOCIATIVE RECOMBINATION OF NITRILE IONS: DCCCN⁺ AND DCCCN^D**W. D. Geppert, A. Ehlerting, F. Hellberg, J. Semaniak, F. Österdahl, M. Kamińska, A. Al-Khalili, V. Zhaunerchyk, R. Thomas, M. af Ugglas, A. Källberg, A. Simonsson, & M. Larsson*

INSTRUCTIONS TO AUTHORS



